

Maternal Age, Education, Area of Residence, & Household Income, and Breastmilk Provision in the North Bay Parry Sound District Health Unit Region: 2009 – 2015

Data in this report is summarized from internal infant feeding data collection that took place for infants born between July 1st, 2009 to October 31st, 2012, and between January 12th, 2014 and December 31st, 2015. No data collection occurred for infants born in the calendar year of 2013.

Data on infant feeding was collected at two weeks and at 6 months of infant age for infants born between July 1st, 2009 and June 30th, 2010, and January 12th, 2014 to December 31st, 2015.

Data on infants who were only provided breast milk from birth (i.e., exclusively fed breast milk) up until 6 months of age was collected between July 1st 2009 and October 31st, 2012, and between January 1st, 2015 and December 31st, 2015.

Where noted, data has been combined to represent infant feeding behaviour over multiple calendar years (e.g., data collected for infants born between January 12, 2014 and December 31st, 2015 may be represented by one time point for 2014 & 2015 combined).

Analysis

All measures have been weighted to account for differences in the age range of all mothers who gave birth, and those who participated in the survey. Therefore, sampling and non-response weights were calculated by maternal age group (under 20 years old, 20 to 29 years old, and 30 years or older), year, and contact point (i.e., 2 weeks, 6 months, etc.). Where possible, percentages are presented annually.

A statistic interpreted as ‘significantly different’ from another is an estimate found to be statistically meaningful; the difference is unlikely due to chance. Error bars noted in figures within this report illustrate 95% confidence intervals. If there is no overlap in range between two estimates, the difference can be described as statistically significant. Confidence intervals (CI) and variances were estimated using the exact method in STATA IC/14.2 (2014) for the North Bay Parry Sound District Health Unit (NBPSDHU) and Ontario.

Maternal Age

The percentage of infants exclusively provided with breast milk at two weeks of infant age decreased between 2011/12 and 2015 for those infants whose mothers were aged 20 to 29 years, or 30 years or more (Table 1).

In 2014/15, about one in three infants whose mother was younger than 20 years of age were provided breast milk at six months of infant age, significantly lower compared to about two in three infants whose mother was aged 30 years or older (Figure 1 & Table 2). These percentages have not changed significantly between 2009/10 and 2014/15. The percentage of infants whose mother was aged between 20 and 29 years and who were provided breast milk at six months of infant age increased significantly from 46% in 2009/10 to 61% in 2014/15.

The percentage of infants exclusively fed breast milk at six months of age could not be measured for those with teenage mothers due to low sample sizes (Table 3).

Table 1. Percentage (95% CI) of Infants Exclusively Provided Breast Milk at Two Weeks of Infant Age, by Maternal Age, July 2009 – December 2010, January 2011 – October 2012, and 2015

Maternal Age	July 2009 – December 2010	January 2011 – October 2012	January – December 2015
Under 20 years of age	38.0 ^{E‡} (25.7, 52.1)	60.6 (43.3, 75.6)	37.5* (20.8, 57.9)
20 to 29 years of age	57.5 (53.1, 61.8)	58.6 (53.8, 63.2)	45.4* (39.6, 51.4)
30 years of age or older (ref.)	57.7 (52.6, 62.7)	62.4 (57.4, 67.1)	47.1 (40.6, 53.7)

* Estimate is significantly different from 2011/12 estimate

‡ Estimate is significantly different from the reference value during the same time period

E Interpret with caution; the estimate is associated with high sampling variability

Figure 1. Percentage of Infants Provided Breast Milk at Six Months of Infant Age, By Maternal Age, July 2009 – June 2010 and 2014-2015 Combined

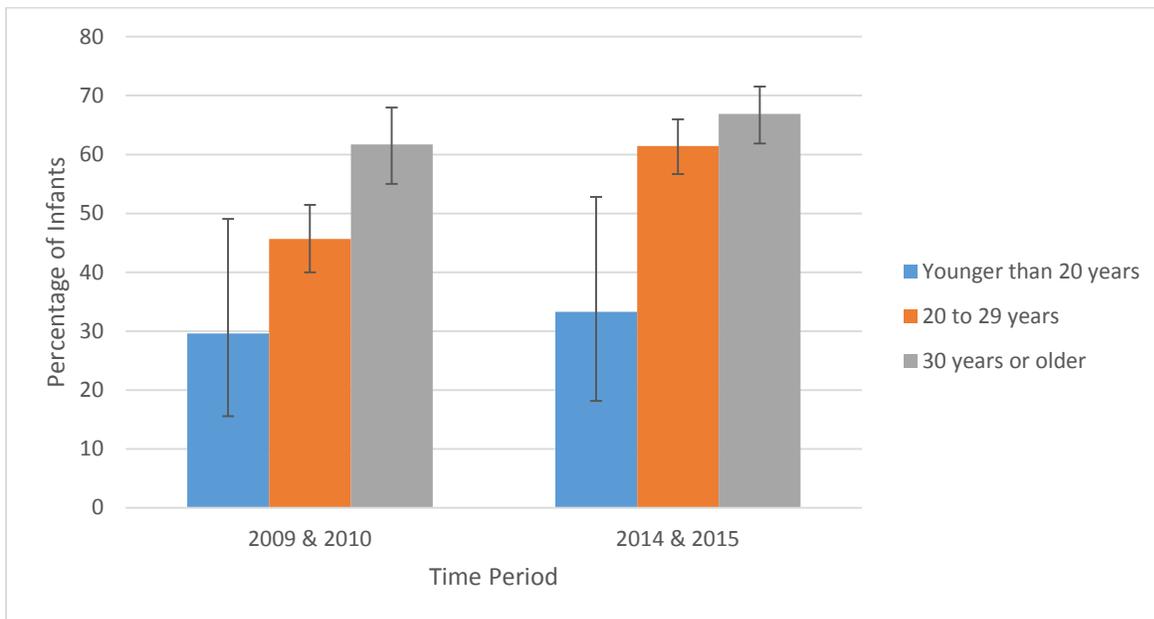


Table 2. Percentage (95%) of Infants Provided Breast Milk at Six Months of Infant Age, by Maternal Age, July 2009 - June 2010 & 2014-2015 Combined

Maternal Age	July 2009 – June 2010	January 2014 - December 2015
Under 20 years of age	29.6 ^{E‡} (15.5, 49.1)	33.3 ^{E†} (18.2, 52.8)
20 to 29 years of age	45.7 [‡] (40.0, 51.5)	61.4* (56.7, 66)
30 years of age or older (ref.)	61.7 (55.0, 68.0)	66.9 (61.9, 71.5)

* Estimate is significantly different from 2009/10 estimate

‡ Estimate is significantly different from the reference value during the same time period

E Interpret with caution; the estimate is associated with high sampling variability

Table 3. Percentage (95%) of Infants Exclusively Provided Breast Milk at Six Months of Infant Age, by Maternal Age, July 2009 - June 2010 and 2015

Maternal Age	July 2009 – June 2010	January – December 2015
Under 20 years of age	F	F
20 to 29 years of age	20.1 (15.8, 25.1)	28.7 (23.1, 35.1)
30 years of age or older	26.6 (21.1, 33)	34.9 (28.5, 41.8)

F Estimate is suppressed; too unreliable to be released

Maternal Education Level

In 2015, about one in every three infants born to mothers who had completed high school were exclusively fed breast milk at two weeks of infant age, significantly lower compared to about in every two infants born to mothers who had at least completed some college (Figure 2 & Table 4). Compared to 2011/12, this percentage has decreased significantly among infants whose mothers had completed high school from 61% to 34%.

In 2014/15, about one of every two infants born to mothers whose highest level of education was completion of high school or less were provided breast milk at six months of infant age, significantly lower compared to about two of three infants born to mothers with some college education or higher education (Figure 3 & Table 5). This percentage has increased significantly between 2009/10 and 2014/15 among infants whose mothers have completed high school from 36% to 44%.

The percentage of infants exclusively fed breast milk at six months of age could not be measured among mothers with less than a high school education due to low sample sizes (Table 6).

Figure 2. Percentage of Infants Exclusively Provided Breast Milk at Two Weeks of Infant Age, By Mother’s Highest Level of Education Completed, July 2009 – December 2010, January 2011 – October 2012, and 2015

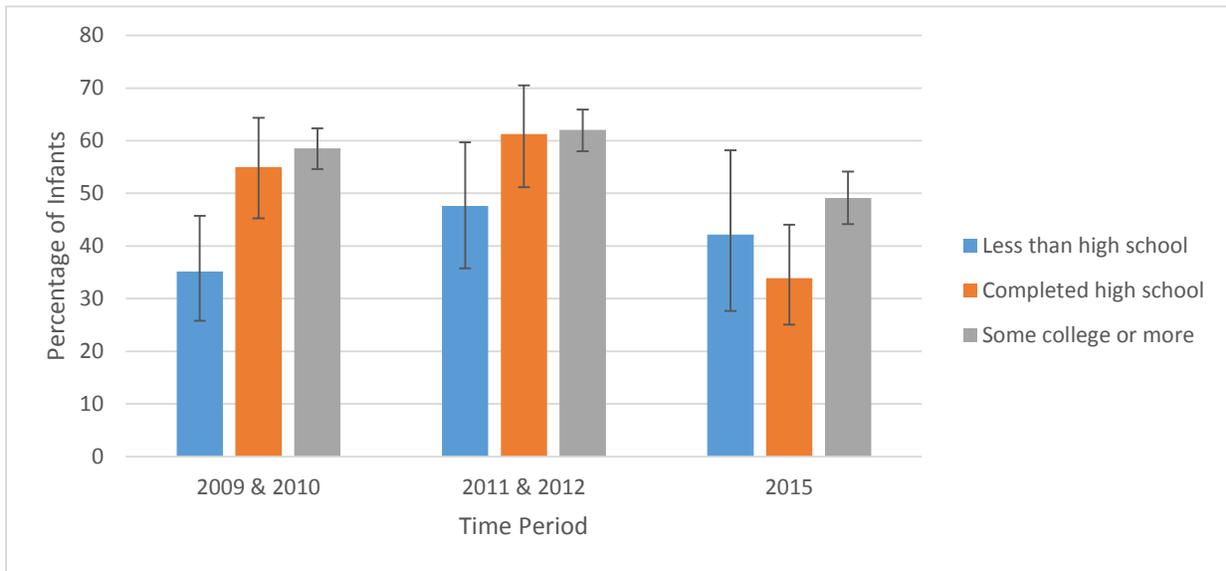


Table 4. Percentage (95%) of Infants Exclusively Provided Breast Milk at Two Weeks of Infant Age, by Mother’s Highest Level of Education Completed, July 2009- December 2010, January 2011 – October 2012, and 2015

Highest Level of Education Completed	July 2009 – December 2010	January 2011 – October 2012	January – December 2015
Less than high school	35.1‡ (25.8, 45.8)	47.6 (35.7, 59.7)	42.2 ^E (27.7, 58.2)
Completed high school	55.0 (45.2, 64.3)	61.3 (51.2, 70.5)	33.9‡* (25.1, 44.0)
Some college or more (ref.)	58.6 (54.6, 62.4)	62.1 (58.0, 65.9)	49.1* (44.2, 54.1)

* Estimate is significantly different from 2011/12 estimate

‡ Estimate is significantly different from the reference value during the same time period

^E Interpret with caution; the estimate is associated with high sampling variability

Figure 3. Percentage of Infants Provided Breast Milk at Six Months of Infant Age, By Mother’s Highest Level of Education Completed, July 2009 – June 2010 and 2014-2015 Combined

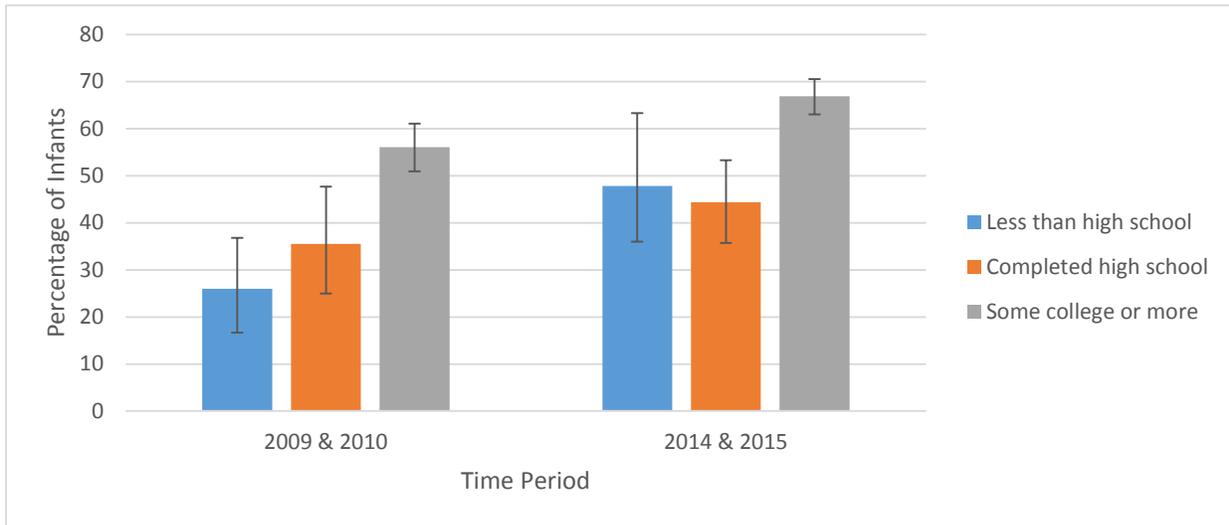


Table 5. Percentage (95%) of Infants Provided Breast Milk at Six Months of Infant Age, by Mother’s Highest Level of Education Completed, July 2009 - June 2010 & 2014-2015 Combined

Highest Level of Education Completed	July 2009 – June 2010	January 2014 - December 2015
Less than high school	26.0 ^{E‡} (15.2, 40.8)	47.9 ^E (32.4, 63.7)
Completed high school	35.5 [‡] (25.0, 47.7)	44.4 [‡] (35.7, 53.3)
Some college or more (ref.)	56.1 (50.9, 61.1)	66.9* (63.1, 70.5)

* Estimate is significantly different from 2009/10 estimate

‡ Estimate is significantly different from the reference value during the same time period

E Interpret with caution; the estimate is associated with high sampling variability

Table 6. Percentage (95%) of Infants Exclusively Provided Breast Milk at Six Months of Infant Age, by Mother’s Highest Level of Education Completed, July 2009 - June 2010 and 2015

Highest Level of Education Completed	July 2009 – June 2010	January – December 2015
Less than high school	F	F
Completed high school	19.0 ^E (11.3, 30.2)	18.4 ^E (10.6, 29.9)
Some college or more (ref.)	24.9 (20.7, 29.6)	32.9 (28, 38.1)

F Estimate is suppressed; too unreliable to be released

E Interpret with caution; the estimate is associated with high sampling variability

Household Income

In 2015, a significantly smaller percentage of infants born to households with incomes less than \$40,000 or more were exclusively provided breast milk at two weeks of infant age (one of every three infants; 34%) compared to infants born to households with incomes between \$40,000 and \$79,999 (54%), and with incomes of \$80,000 or more (51%). Similarly, breast milk provision at six months of infant age was significantly smaller for infants born to households with incomes less than \$40,000 (48%) compared to households with incomes ranging \$40,000 to \$79,999 (62%), and also significantly smaller compared to infants born to households with incomes of \$80,000 or more (74%).

Figure 4. Percentage of Infants Exclusively Provided Breast Milk at Two Weeks of Age, and Provided Any Breast Milk at Six Months of Infant Age, By Household Income, January 2015 – December 2015 (Two Weeks of Infant Age) & January 2014 – December 2015 (Six Months of Infant Age)

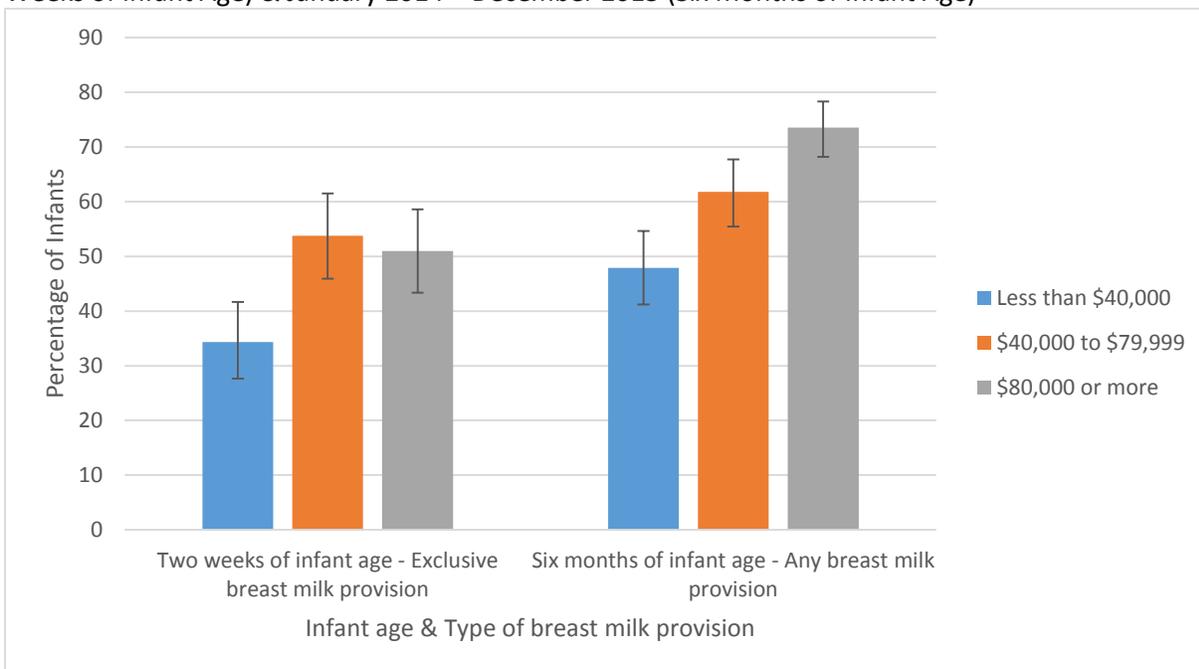


Table 7. Percentage (95%) of Infants, by Infant Age, Type of Breast Milk Provision, and Household Income Range, January 2014 – December 2015

Household Income Range	First drink after birth – Breast milk	Two weeks of infant age – Exclusive breast milk provision ^Δ	Six months of infant age – Any breast milk provision	Six months of infant age – Exclusive breast milk provision ^Δ
Less than \$40,000	90.0 (86.3, 92.8)	34.3‡ (27.7, 41.7)	47.9‡ (41.2, 54.6)	21.4 ^E (15.0, 29.6)
\$40,000 to \$79,999	96.2 (93.3, 97.9)	53.8 (45.9, 61.5)	61.8‡ (55.5, 67.8)	31.6 (24.2, 39.9)
\$80,000 or more (ref.)	95.1 (92.1, 97.0)	51.0 (43.3, 58.6)	73.6 (68.2, 78.3)	33.0 (25.9, 41.1)

Δ Time period is 2015 for these indicators, not 2014/15

‡ Estimate is significantly different from the reference value during the same time period

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Area of Residence

Similar percentages of infants born to mothers who resided in North Bay and outside North Bay in the Adjusted Nipissing District (excludes Bear Island, Temagami, & South Algonquin) and the Parry Sound District were provided breast milk in any amount or exclusively at two weeks and six months of infant age for infants born in 2009/10 (Table 8).

Table 8. Percentage (95%) of Infants Exclusively Provided Breast Milk, by Infant Age, Type of Breast Milk Provision, and Mother's Area of Residence, July 2009 - June 2010

Area of Mother's Residence	Two weeks of infant age – Exclusive breast milk provision ^Δ	Six months of infant age – Any breast milk provision	Six months of infant age – Exclusive breast milk provision
Municipality of North Bay	54.3 (50.4, 58.2)	47.2 (42.1, 52.5)	20.2 (16.4, 24.7)
Outside of the Municipality of North Bay[^]	60.1 (54.3, 65.7)	56.9 (49.3, 64.1)	24.4 (18.6, 31.4)

Δ Time period is July 2009 – December 2010 for this indicators, not July 2009 to June 2010

[^] Areas outside the municipality of North Bay but in the NBPSDHU region include the Adjusted Nipissing District (excluding North Bay, Bear Island, Temagami, & South Algonquin) and the Parry Sound District